

## 7.16 ASSESSMENT OF MAMMAL BONE

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### *Summary*

- 7.16.1 422 fragments (9046g) of mammalian bone were recovered by manual excavation and additional material (1110g) by sieving. Around half (by number) of the hand-recovered assemblage is accounted for by a nearly complete horse skeleton from an early medieval context. The remaining material is dominated by cattle, sheep and pig and there is evidence suggestive of horn working.
- 7.16.2 The mammalian bone from early medieval deposits (Phase 3) offers the greatest potential for analysis as it is the largest group from a single phase. The potential for gaining environmental information from the material is very limited and any further work should instead concentrate on a detailed study of the horse skeleton and a dietary and economic analysis of the remaining material. This rural assemblage may then usefully be compared with early medieval urban groups, particularly from Canterbury and Dover.

### *Introduction*

- 7.16.3 A total of little over 10kg of mammalian bone was recovered by manual excavation and by sieving

### *Methodology*

- 7.16.4 The small size of the mammal bone assemblage negated the need to sub-sample and all the bone has, therefore, been catalogued. Sieved bone was recovered as part of the process outlined below (Appendix 17.2).
- 7.16.5 The hand-recovered bone was identified with the aid of a comparative osteological reference collection. Bone identified to species was recorded using the diagnostic zones of Dobney and Reilly (1988). Bone not identified to species was awarded an animal-size category (*e.g.* sheep-sized) or listed as being indeterminate. The criteria of Boessneck (1969) were used to differentiate between sheep and goat remains. If this was not possible the fragments were labelled sheep/goat. All bone fragments have also been weighed (Table One).
- 7.16.6 The mammalian bone from the samples was recorded in the same way as the hand-recovered material, except that the total bone material derived from each sieved sample was weighed instead of the individual fragments.
- 7.16.7 Basic fragment counts and bone weight have been used to quantify the material (Table One). Context frequency (for the hand-recovered bone) and sample frequency (for the bulk samples) have been used to compare the material from the two recovery methods. This allows comparison of the frequency of occurrence of the different taxa independently of differing fragmentation, bone weights and context/sample size.

### *Quantification*

- 7.16.8 The hand-recovered assemblage consists of 422 fragments, weighing 9046g, from 25 contexts, a further 1110g was derived from 43 sieved samples. The total quantity (number of fragments and weight) of hand-recovered mammalian bone is presented in Table One. The distribution of this bone between the phases, groups and sub-groups is shown in Table Two.

7.16.9 Tables One and Two show the majority of the material to have derived from the early medieval period (Phase 3). A large part of this comprises a single horse skeleton. This skeleton contributes all the horse bones and all the cattle-sized material from sub-group 129, a total of 238 fragments (Table Two). Analysis of the number of contexts within which particular taxa occur goes some way towards cancelling out the bias caused by the articulating skeleton. Excluding the skeleton from the data leaves an assemblage typical of early medieval mammalian assemblages – one dominated by cattle, sheep and pig.

7.16.10 Comparison of the context/sample frequencies shows cattle to be better represented in the hand-recovered material, and sheep and pig to be better represented in the sieved material. This is a known product of recovery bias (Payne, 1975).

#### 7.16.11 Table One

*Summary of hand recovered mammalian bone*

	Late Anglo-Saxon [Phase 2]	Early Medieval [Phase 3]	Late Medieval [Phase 4]	Post-Medieval [Phase 5]	Total number of frags.	Total weight (g)	Mean fragment weight (g)
Cattle	2	33	2	-	37	1665	45.0
Sheep/goat	-	22	3	1	26	207	8.0
Sheep ovis sp. domestic	1	5	-	-	6	80	13.3
Pig, sus Sp. domestic	-	13	-	-	13	164	12.6
Horse, Equus caballus sp. domestic	2	115	-	-	117	5803	49.6
Goat Capra sp. domestic	-	5	-	-	5	80	16.0
Sheep/Goat/Roe deer	-	1	-	-	1	14	14.0
Dog Canis sp. domestic	-	3	-	-	3	20	6.7
Cat Felis sp. domestic	-	1	-	-	1	4	4.0
Mustelid	-	1	-	-	1	1	1.0
Cattle-sized	-	159	1	-	160	895	5.6
Sheep-sized	1	38	-	-	39	103	2.6
Indeterminate	-	38	-	-	39	103	2.6
Total	6	408	7	1	422	9046	21.4

### 7.16.12 Table Two

*Distribution of hand-recovered mammalian bone, by number of fragments*

<b>Phase</b>	<b>2</b>								<b>3</b>											
<b>Group</b>	<b>3</b>				<b>6</b>				<b>8</b>				<b>10</b>				<b>11</b>			
<b>Sub-Group</b>	<b>147</b>	<b>153</b>	<b>67</b>	<b>119</b>	<b>73</b>	<b>128</b>	<b>129</b>	<b>152</b>												
Cattle	2	2	-	3	-	4	1	3												
Sheep/goat	-	1	-	2	-	9	2	-												
Sheep	1	-	-	1	-	1	-	-												
Pig	-	1	-	-	-	3	-	-												
Horse	2	-	-	-	-	-	115	-												
Goat	-	1	-	-	-	1	-	-												
Sheep/Goat/Roe deer	-	-	-	-	-	-	-	-												
Dog	-	-	-	-	-	-	-	-												
Cat	-	-	-	-	-	-	-	-												
Mustelid	-	-	-	-	-	-	-	-												
Cattle-sized	-	-	1	2	2	12	123	-												
Sheep-sized	1	-	-	1	2	23	-	-												
Indeterminate	-	-	-	-	-	1	-	-												
<b>Total NISP</b>	<b>6</b>	<b>5</b>	<b>1</b>	<b>9</b>	<b>4</b>	<b>54</b>	<b>241</b>	<b>3</b>												

<b>Phase</b>	<b>3</b>									
<b>Group</b>	<b>12</b>				<b>13</b>	<b>14</b>	<b>19</b>	<b>20</b>	<b>27</b>	<b>34</b>
<b>Sub-Group</b>	<b>105</b>	<b>146</b>	<b>154</b>	<b>161</b>	<b>107</b>	<b>65</b>	<b>156</b>	<b>120</b>	<b>56</b>	<b>46</b>
Cattle	1	-	2	-	9	6	2	-	2	-
Sheep/goat	3	3	-	-	1	-	-	1	3	1
Sheep	1	-	-	-	1	1	-	-	-	-
Pig	1	2	-	-	4	1	-	1	-	-
Horse	-	-	-	-	-	-	-	-	-	-
Goat	-	-	-	3	-	-	-	-	-	-
Sheep/Goat/Roe deer	-	-	-	-	-	1	-	-	-	-
Dog	-	-	-	-	-	3	-	-	-	-
Cat	-	-	-	-	-	1	-	-	-	-
Mustelid	-	-	-	-	-	1	-	-	-	-
Cattle-sized	4	4	-	-	5	5	-	1	1	-
Sheep-sized	5	1	-	-	5	1	-	-	-	-
Indeterminate	7	-	-	-	3	1	-	-	1	-
<b>Total NISP</b>	<b>22</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>28</b>	<b>21</b>	<b>2</b>	<b>3</b>	<b>7</b>	<b>1</b>

#### *Provenance*

7.16.13 Around half (by number) of the hand-recovered assemblage is accounted for by the skeleton of a horse, which is excellently preserved (context 421, sub-group 129, Group 11, Phase 3). The rest of the material varies between some well-preserved contexts and some poor, though it is generally fair.

7.16.14 The mammalian bone from early medieval deposits, Phase 3, offers the greatest potential for analysis, as it is the largest group from a single phase.

### *Conservation*

- 7.16.15 Further analysis would not conflict with long-term storage. The material is already suitably packaged for long-term storage.

### *Comparative material*

- 7.16.16 The bone from Mersham is contemporary with larger assemblages from Canterbury (Driver, 1990) and Dover (Bendrey, forthcoming). Comparison of the Mersham assemblage with these other sites may reveal interesting differences and/or similarities between the diet and economy of early medieval urban and rural.

### *Potential for further work*

- 7.16.17 The mammal bone assemblage has the potential to illustrate aspects of diet and economy from the late Anglo-Saxon and early medieval site. The bone material offers a valuable opportunity to examine an assemblage from a rural site of this date, and compare it to previously studied urban assemblages. The horse skeleton provides an unusual opportunity to analyse a nearly complete medieval specimen.
- 7.16.18 The potential for gaining environmental information from the bone assemblage is very limited. Wild mammal bones are few and do not necessarily pertain to the immediate site environment, and there are only a few small mammal bones from the sieved samples.
- 7.16.19 Further work should focus on two areas. The first of these would comprise an analysis of the fragmentary assemblage for information on diet and economy (*e.g.*, the presence of goat horn cores in Phase 3 with the absence of post-cranial goat bones could suggest horn working). The second would involve a detailed study of the horse skeleton. This would encompass a metrical and morphological analysis and comparison with the measurements of disarticulated bones found from other sites. Attempts should also be made to identify the mustelid bone as to species, by comparison with reference material at the London Natural History Museum.
- 7.16.20 Analysis of the bulk samples will add a small amount of information to that provided by the hand-recovered material. They broaden the species range, with the identification of roe deer. Environmental information is limited; only three mammal bones were recorded, none of which have been identified to species. As has been stated above, the bulk samples reveal a recovery bias in the hand-recovered bone in favour of the larger species.
- 7.16.21 Although the assemblage is small, it is of importance for providing information on the rural economy, which is lacking for this period in Kent, and for allowing a comparison to be made between town and country in East Kent.

### **7.16.22 Bibliography**

Bendrey, R., forthcoming; *The Mammal Bone*, in K. Parfitt, B. Corke and J. Cotter, *Excavations at Townwall Street, Dover, 1995-1996*, *The Archaeology of Medieval Dover* 1, Canterbury Archaeological Trust Occasional Papers, Canterbury.

Boessneck, J., 1969; *Osteological Differences between Sheep (*Ovis aries* Linne) and Goat (*Capra hircus* Linne)*, in D. Brothwell and E. Higgs (eds), *Science in Archaeology*, London, pp331-58.

Dobney, K. and Reilly, K., 1988; A method for recording archaeological animal bones; the use of diagnostic zones, *Circaea* **5.1**, pp79-96.

Driver, J. C., 1990; Faunal Remains, in J. C. Driver, J. Rady and M. Sparks, *Excavations in the Cathedral Precincts, 2; Linacre Garden, 'Meister Omers' and St Gabriel's Chapel*, The Archaeology of Canterbury IV, Maidstone, pp228-57.

Payne, S., 1975; Partial recovery and sample bias, in A. T. Clason (ed), *Archaeozoological studies*, Groningen, pp7-17.

## **7.17 ASSESSMENT OF BIRD AND FISH BONE**

Enid Allison

### *Summary*

- 7.17.1 Over 2,000 pieces of bird and fish bone were recovered, largely through sieving although some, generally larger, material was collected by hand. The material has the potential to provide information on the diet and economy of the medieval inhabitants of the Mersham site. Little previous work has been carried out on an inland rural site of this date. Further analysis would concentrate on fish bone obtained from sieved samples.

### *Introduction*

- 7.17.2 Bird and fish bones were recovered, both by manual excavation and by sieving of 48 bulk samples from selected features.

### *Methodology*

- 7.17.3 Sieving of bulk samples was carried out onto nested 1mm and 2mm meshes after carrying out bucket flotation, to 0.5mm, for recovery of charcoal and seeds. All residues have been sorted and all bones present retrieved.

### *Quantification*

- 7.17.4 Very few bird and fish bones (10 fragments of each) were recovered by hand collection. A total of 49 fragments of bird bone were recovered from the samples, representing a wider range of species than the hand-collected material. Eggshell was present in several samples.
- 7.17.5 Recovery of fish bone was greatly enhanced by sieving, with an estimated total of over 2,000 fragments recovered from 37 samples. Seven of these produced assemblages with over 100 fish fragments. The numbers of identifiable fragments make up a relatively low proportion of the total (this is usually the case with sieved material, as many small, undiagnostic fragments of fin rays are recovered). A relatively high proportion (c. 40%) of identifiable bone was recovered from just two Phase 3 samples (context 419, sub-group 130, Group 6; context 432, sub-group 146, Group 12); these consisted chiefly of eel vertebrae. The total of identifiable fish bones is estimated at c. 300. A few fish scales were recovered from three samples.

### *Provenance*

- 7.17.6 The bird and fish remains were recovered from ditch and pit fills excavated closer to the supposed areas of industrial rather than domestic activity. The bones appear to be predominantly food debris although possible exceptions to this are provided by bones of small passerines.

### *Conservation*

- 7.17.7 None of the bones will require conservation.

### *Comparative Material*

- 7.17.8 There are relatively few published accounts of medieval bird and fish assemblages from this general area. Those that have been published are from semi-urban/ecclesiastical or urban sites, such as Maison Dieu (Ospringle; Wall, 1980), St Gregory's Priory (Canterbury; Powell *et al.*, forthcoming), and Townwall Street (Dover; Nicholson, forthcoming; Allison, forthcoming).

### *Potential for further work*

- 7.17.9 The material from Mersham provides an opportunity to examine material from an inland rural site. Although the bird bone should be noted, future work should concentrate upon the much larger assemblage of fish bone which has the potential to address the CTRL research aim to examine the:

- Utilisation of natural resources, e.g. woodland management and exploitation of riverine and coastal resources.

- 7.17.10 The small, bird bone assemblage recovered is typical of food debris found on medieval sites, with domestic fowl and goose predominant. Bones of mallard (?) duck and pigeon (?) were present and several bones of small passerines were recovered by sieving. The potential for further work is limited by the small quantity of bone recovered and should consist of the production of a simple species list.

- 7.17.11 Further analysis of the fish bone would be more valuable in interpretation of the site economy. Work would necessarily be concentrated on the material recovered by sieving. The assemblage as a whole contains sufficient identifiable material to generate statistically significant information on the fish component of the diet of the medieval inhabitants of the site. The relative importance of freshwater and marine fish should be determined; comparison made with other medieval assemblages from sites along the southern North Sea and Channel coasts may shed light on the provenance of the latter and, therefore, on the trading/exchange patterns of the settlement.

### **7.18.12 Bibliography**

Allison, E. P., forthcoming; The Bird Bones, in K. Parfitt, B. Corke and J. P. Cotter, *Excavations at Townwall Street, Dover, 1995-6*, The Archaeology of Medieval Dover 1, Canterbury Archaeological Trust Occasional Papers, Canterbury.

Nicholson, R. A. forthcoming; The Fish Remains, in K. Parfitt, B. Corke and J. P. Cotter, *Excavations at Townwall Street, Dover, 1995-6*, The Archaeology of Medieval Dover 1, Canterbury Archaeological Trust Occasional Papers, Canterbury.

Powell, A., Sergeantson, D., and Smith, P., forthcoming; Food Consumption and Disposal; the animal remains in Hicks, M., and Hicks, A., forthcoming; *Excavations at St Gregory's Priory Canterbury*, The Archaeology of Canterbury (new series) II, Canterbury.

Wall, S. M. (1980); The animal bones from the excavation of the hospital of St Mary of Ospringle, *Archaeologia Cantiana* **96**, pp227-266.